DOCUMENT RESUME

ED 350 100 PS 020 793

AUTHOR Messinger, Daniel; Fogel, Alan
TITLE Infants' and Mothers' Offers and Requests: The Effects of Physical Context and Infant Walking.
PUB DATE May 92
NOTE 11p.; Paper presented at the Biennial Convention of the International Society for Infant Studies (Miami, FL, May 1992).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Development; *Body Language; Cognitive Development; Infant Behavior; *Infants; *Mothers; *Parent Child Relationship
IDENTIFIERS Gaze Patterns; *Gestural Representation; Referential Communication; *Walking

ABSTRACT

This study examined how change occurs in infant gestural communication. Five infants were videotaped once a week from 10 to 12 months and twice a week from 12 to 15 months during play sessions with their mothers in a laboratory playroom. These sessions consisted of 10 minutes of a structured play context in which infants were seated at a table at right angles to their mothers, who had access to a set of standardized toys. This context was followed by 10 minutes of an unstructured play context in which infants and mothers sat on the floor in variable positions with equal access to toys. It was hypothesized that these two contexts would be associated with differences in gesturing due to differences in freedom of movement and access to toys. Results indicated that structured sessions were associated with more infant requests for toys and more gazing at mothers by infants when infants offered toys to their mothers than were unstructured sessions. Infants gestured more and made more requests for toys from their mothers in the unstructured context after they began to walk independently than before. The results suggest the importance of physical context and independent upright locomotion in the development of gestural communication. (MDM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED350100

INFANTS' AND MOTHERS' OFFERS AND REQUESTS: THE EFFECTS OF PHYSICAL CONTEXT AND INFANT WALKING

Daniel Messinger and Alan Fogel

University of Utah

Department of Psychology

Poster presented at the biennial convention of the International Society for Infant Studies, Miami, FL, May, 1992. The first author's address is Daniel Messinger, University of Utah, Department of Psychology, Salt Lake City, UT 84112. The authors wish to thank the families who took part in this research and the students who served as coders.

This presentation uses previously presented data that was re-coded. Future presentations will include analyses using an additional six subjects; other variables may be added and/or substituted in these analyses. Thus, citations should acknowledge the preliminary character of this presentation.

PS 020793

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Daniel Messinger
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

ABSTRACT

This study addressed how change occurs in infant gestural communication. Five infants were videotaped once and twice a week from 10 to 15 months of age. A hierarchical log-linear model illuminated how the onset of walking and the physical context were associated with differences in how infants and mothers offered and requested physical objects. A more structured physical context (being at a table) was associated with relatively more infant requesting and infant referential gazing at mother. With the onset of independent walking, infants also requested relatively more, gestured more (relative to the frequency of maternal gestures), and were more likely to gaze referentially at mother in a less structured physical contest (being on the floor). The results suggest the importance of physical context and upright independent locomotion in the development of gestural communication.

INTRODUCTION

Toward the end of the first year, infant gestural communication becomes more conventional (Bakeman and Adamson, 1984 & 1986). Infants begin to offer and request objects, and to respond in kind when their mothers offer them objects or request objects from them (Locke, 1980). During some offers and requests, infants display a conventional sign of communicative intent - they gaze referentially between mother and the object being offered or requested (Bates et al., 1979). The current study conceptualizes mother and infant offers and requests as an interactive system. Literature on the effect of physical context on gesturing and literature on the effect of independent locomotion on gesturing (Bruner, 1983; Campos, et al., 1990) prompted two questions:

1. How does this interactive system function in more and less structured physical contexts?
2. How does this interactive system change when infants begin to walk independently?

METHODS

Subjects and Procedure

As part of a continuing study, five infants were videotaped once a week from 10 to 12 months and twice a week from 12 to 15 months during twenty minute play sessions with their mothers in a laboratory playroom. The first 10 minutes were in a more structured physical CONTEXT - infants were seated at a table at right angles to mothers who had initial access to a standardized set of toys. The second 10 minutes were in a less structured physical CONTEXT - on the floor in which infant position relative to mother was more variable and toys accessible to both mother and infant. We hypothesized that these contexts would be associated with differences in gesturing due to differences in freedom of movement and access to toys. During the floor CONTEXT, we ascertained the session in which the infant began WALKING independently (two steps unassisted).

Coding

In a first pass through the videotape, coders noted which PARTNER, mother or infant, GESTURED, requested or offered an object. During offers, partners extended objects towards the other partner with the goal, as judged by the coder, of giving the object. Requests involved straightening the arm and grasping for objects, as well as using points and palm-up gestures.

On a second pass, a different coder assessed whether the infant gazed referentially between mother and the object during the GESTURE (Bakeman & Adamson, 1981). Average Kappas based on inter-rater and criterion reliability for 10% of the sessions were above .85.

Analysis

A hierarchical log-linear analysis of the associations between PARTNER (mother or infant), GESTURE (offer or request), REFERENTIAL (gazing at mother or not), physical CONTEXT (table or floor) and whether the infant was WALKING independently (or not) eliminated associations not significant at $p < .01$ (in a manner akin to backwards regression). The five three-way associations that emerged are described below and, along with one two-way association, technically outlined in Table 1.

RESULTS: ASSOCIATIONS WITH PHYSICAL CONTEXT

1. Infant requests were more likely to occur in a more structured context (at the table), while infant offers were more likely to occur in a less structured context (on the floor). (The opposite was true for mothers.) When seated at the table, infants seemed constrained to request objects from mothers (who had initial access to objects), while on the floor mothers appeared to use infants to obtain objects.

2. In a more structured context (at the table), offers tended to involve referential gazing at mother, while in a less structured context (on the floor), requests tended to involve referential gazing. The referentiality which occurred during offers at the table seemed to index involvement, while on the floor infant referential gazing appeared to be necessary to ascertain and establish communicative intent during requests.

RESULTS: ASSOCIATIONS WITH INDEPENDENT WALKING

1. Prior to independent walking, infants tended to gesture (request and offer) in the more structured physical context (at the table) and mothers tended to gesture on the floor. With the onset of independent walking, infants increased their gestures in the less structured physical context.

2. Prior to independent walking, referential gestures tended to occur in the more structured physical context, at the table. Independent walking was associated with infants using referential gestures in the less structured physical context, on the floor.

3. Independent walking was associated with an increase in infant requests and mother offers. Prior to independent walking, there was little association between gesture and partner.

4. Infant walking yielded a relative increase in both mother and infant requests on the floor.

SUMMARY

1) Physical context influenced both the types of gestures mothers and infants used and whether those gestures were accompanied by a traditional index of infant communicative intent, referential gazing at mother.

2) The onset of independent walking was associated with relative increases in infant requests, infant gesturing in general, infant referential gazing during gestures, and the tendency of requests to occur on the floor.

CONCLUSION

Infant requesting and infant use of referential gazing during gestures are regarded as important indices of the development of intentional communication (Bates et al., 1979; Murphy & Messer, 1977). In this study, we found these indices to be sensitive to physical context and the infant's capacity for upright locomotion. A more structured physical context was associated with relative increases in gesturing and referential gazing, while the onset of independent walking was associated with a relative increase in infants' use of requesting and referential gazing in the less structured context. This illustrates the dependence of communicative gestures on physical context and developmental achievements such as walking.

Table 1. Significant Associations Between GESTURE, CONTEXT, REFERENTIAL GAZING AT MOTHER, SMILING, and SUCCESS After Backwards Elimination of Nonsignificant Associations ($p > .01$).*

Association	DF	Chi-square change if removed	p
ASSOCIATIONS WITH PHYSICAL CONTEXT			
1. PARTNER * GESTURE * CONTEXT	1	47.969	.0000
2. GESTURE * REF. GAZE * CONTEXT	1	9.772	.0018
ASSOCIATIONS WITH INDEPENDENT WALKING			
1. PARTNER * CONTEXT * WALKING	1	13.923	.0002
2. REF. GAZE * CONTEXT * WALKING	1	15.108	.0001
3. PARTNER * GESTURE * WALKING	1	16.532	.0000
4. GESTURE * CONTEXT * WALKING	1	8.791	.0030
TWO-WAY ASSOCIATION			
1. PARTNER * REFERENTIAL GAZE	1	18.753	.0000

*The likelihood ratio [$X^2(1, N = 584) = 9.59$, DF = 10, $p = .477$] for the model as a whole indicated associations in the data were adequately explained.